

## REMARKS

### **I. Introduction**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-10 are cancelled. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner. Applicants reserve the right to pursue the subject matter of the canceled claims in subsequent applications.

Claim 11 is currently being amended. Exemplary support for the amendment is found throughout the specification. *See, eg.*, page 57, lines 4-9.

A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

Because the foregoing amendments do not introduce new matter, entry thereof by the Examiner is respectfully requested. Upon entry of this Amendment, claim 11 will remain pending in the application.

### **II. Response to Issues Raised by Examiner in the Outstanding Office Action**

#### **a. Claim Rejections - 35 U.S.C. § 112, Second Paragraph**

Claim 11 is rejected by the Examiner under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite. Applicants respectfully request reconsideration and withdrawal of the rejection.

The Examiner asserts that the recitation of “receptor-type protein tyrosine phosphatase-alpha polypeptide” is indefinite because the specification allegedly fails to teach any identifying characteristics which distinguish any of the various RPTPs from each other. Applicants respectfully disagree. However, to expedite prosecution, Applicants have amended claim 11 to recite that the RPTP-alpha “has protein tyrosine phosphatase activity and comprises “(i) the amino acid sequence SEQ ID NO:1; (ii) an amino acid sequence

encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 2; (iii) the amino acid sequence of SEQ ID NO: 3; or (iv) an amino acid sequence encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:4. both structural and functional characteristics of RPTP-alpha. Exemplary support for the amendment is found throughout the specification. *See e.g.*, page 57, lines 4-9. Therefore, claim 11 complies with the requirements of 35 U.S.C. § 112, second paragraph.

**b. Claim Rejections - 35 U.S.C. § 112, First Paragraph**

Claim 11 is rejected by the Examiner under 35 U.S.C. § 112, first paragraph, for alleged lack of enablement and written description. Applicants respectfully request reconsideration and withdrawal of the rejection.

The Examiner asserts that claim 11 is so broad as to encompass methods of identifying compounds which interact with any RPTP-alpha, and that the specification does not disclose or enable such a broad claim scope. Applicants respectfully disagree. However, to expedite prosecution, Applicants have amended claim 11 to recite both functional and structural characteristics of RPTP-alpha. Claim 11, as amended, recites that the RPTP-alpha comprises “(i) the amino acid sequence SEQ ID NO:1; (ii) an amino acid sequence encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 2; (iii) the amino acid sequence of SEQ ID NO: 3; or (iv) an amino acid sequence encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:4.” Such

hybridization assays are routine to those of skill in the art and would not impose an undue burden on an ordinary skilled artisan. Therefore, the specification provides written description support and enabling disclosure for claim 11, as amended.

**c. Claim Rejections - 35 U.S.C. § 103**

Claim 11 is rejected by the Examiner under 35 U.S.C. § 103 as being allegedly obvious over Charbonneau et al., PNAS, 86:5252-5256 (1989) ("Charbonneau"), or Streuli et al., PNAS 86:8698-8702 (1989) ("Streuli"). Applicants respectfully request reconsideration and withdrawal of the rejection.

The Examiner asserts that it would have been obvious for a person of ordinary skill in the art to use the RPTPs of Charbonneau or Streuli or the extracellular domain thereof in well known assays for identifying compounds which bind to a protein of interest in order to identify ligands of the receptor or other compounds which regulate the activity of the R-PTP protein. Applicants respectfully disagree. However, to expedite prosecution, Applicants have amended claim 11 to recite that the RPTP-alpha comprises "(i) the amino acid sequence SEQ ID NO:1; (ii) an amino acid sequence encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 2; (iii) the amino acid sequence of SEQ ID NO: 3; or (iv) an amino acid sequence encoded by a nucleic acid molecule that hybridizes at 42°C in 50% formamide, 5X SSC, 25 mM KPO<sub>4</sub>, 5X Denhardt's, 10 µg/ml salmon sperm DNA and 10% sulfate followed by washing at 58°C in 0.1X SSC and 0.1% SDS to the complement of a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:4."

To establish a *prima facie* case of obviousness, there needs to be: (1) some suggestion or motivation to modify the reference or to combine reference teachings, (2) a reasonable expectation of success, and (3) the prior art references, when combined, must teach or suggest all the limitations of the claimed invention. See MPEP §2143 (Aug. 2001). "Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in

the applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). Applicants respectfully assert that the examiner has not met his burden.

The Examiner has failed to establish a *prima facie* case of obviousness because neither Charbonneau or Streuli teach or suggest the claimed RPTP-alpha polypeptides.<sup>1</sup> As a result, Charbonneau or Streuli fail to teach or suggest all of the limitations of claimed invention. Therefore, the claimed invention is not obvious over Charbonneau or Streuli.

**d. Issues Under Double Patenting**

Claim 11 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being allegedly unpatentable over claims 11-16 of copending Application No. 10/777,145. Applicants respectfully request that the Examiner hold this rejection in abeyance until there are allowed claims in one of the applications.

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<sup>1</sup> Applicants note that the RPTP-alpha polypeptide recited in the instant claims is claimed in claims 1, 5 and 9 of U.S. Patent No. 5,888,794

**CONCLUSION**

The present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant(s) hereby petition(s) for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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